

WHAT IS CLAIMED AS NEW AND DESIRED TO BE PROTECTED BY  
LETTERS PATENT OF THE UNITED STATES OF AMERICA, IS:

1. An assembly for facilitating the fixed mounting of roof  
5 membrane seam plates at predetermined locations of an under-  
lying roof decking substructure, comprising:

a substrate, comprising at least one ply, having a  
longitudinal extent; and

a plurality of seam plates, for fixing environ-  
10 mental membranes to the underlying roof decking substructure,  
fixedly mounted to said at least one ply of said substrate  
at predeterminedly spaced positions, along said longitudinal  
extent of said substrate, such that when one of  
said plurality of seam plates is fixedly secured at a first  
15 location along the underlying roof decking substructure, the  
remaining ones of said plurality of seam plates will inherently  
be disposed at the remaining ones of the predetermined  
locations along the underlying roof decking substructure at  
which said seam plates are to be fixedly secured so as to  
20 ensure the proper fixation of said seam plates to the under-  
lying roof decking substructure whereby, in turn, the fixation  
of the environmental membranes, to the underlying roof  
decking substructure, will likewise be ensured.

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2. The assembly as set forth in Claim 1, wherein:

when the underlying roof decking substructure comprises  
a corrugated roof decking substructure, comprising a  
30 plurality of crest portions spaced from each other by means

of predetermined distances, said plurality of seam plates are fixedly mounted upon said substrate at predeterminedly spaced positions which correspond to the predetermined distances defined between the plurality of spaced crest portions of the underlying corrugated roof decking substructure so as to ensure said plurality of seam plates can be fixedly secured to the plurality of spaced crest portions of the underlying corrugated roof decking substructure.

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3. The assembly as set forth in Claim 1, wherein:

when the underlying roof decking substructure comprises a non-corrugated roof decking substructure, said plurality of seam plates are fixedly mounted upon said substrate at predeterminedly spaced positions which will ensure the secure fixation of the environmental membranes to the underlying non-corrugated roof decking substructure in such a manner that the environmental membranes will exhibit up-  
lifting wind force resistance so as to remain fixed to the underlying non-corrugated roof decking substructure despite being exposed to significant uplifting wind forces.

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4. The assembly as set forth in Claim 1, wherein:

each one of said plurality of seam plates has a plurality of projections extending downwardly from under-surface portions of each one of said plurality of seam plates for engaging each one of the environmental membranes;  
and

said substrate has a substantially C-shaped cross-sectional configuration comprising an upper planar member disposed atop said plurality of seam plates, and a pair of lower planar flap-type members folded inwardly from opposite side edge portions of said upper planar member.

5. The assembly as set forth in Claim 4, further comprising:  
heat-sealed regions defined around peripheral edge portions of each one of said plurality of seam plates for securing each one of said plurality of seam plates to said substrate.

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6. The assembly as set forth in Claim 4, wherein:

each one of said plurality of seam plates has a predetermined lateral extent;

said upper planar member of said substrate has a lateral extent which is at least equal to said lateral extent of each one of said plurality of seam plates so as to cover upper surface portions of each one of said plurality of seam plates; and

said flap-type members have lateral extents which are less than said predetermined lateral extent of each one of said plurality of seam plates such that when said flap-type members are folded beneath each one of said plurality of seam plates, said flap-type members will only partially cover undersurface portions of each one of said plurality of seam plates so as to enable at least some of said projec-

tions of said seam plates to freely engage the environmental membranes.

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7. The assembly as set forth in Claim 4, wherein:

each one of said plurality of seam plates has a predetermined lateral extent;

10 said upper planar member of said substrate has a lateral extent which is at least equal to said lateral extent of each one of said plurality of seam plates so as to cover upper surface portions of each one of said plurality of seam plates; and

15 said flap-type members each have lateral extents which are approximately equal to one-half of said lateral extent of said upper planar member of said substrate such that when said flap-type members are folded beneath each one of said plurality of seam plates, said flap-type members will substantially cover entire undersurface portions of  
20 each one of said plurality of seam plates wherein said projections of said seam plates will engage said folded flap-type members of said substrate when said plurality of seam plates are secured to the underlying roof decking substructure so as to also engage the environmental membranes.

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8. The assembly as set forth in Claim 1, wherein:

30 each one of said plurality of seam plates has a plurality of projections extending downwardly from undersurface portions of each one of said plurality of seam plates

for engaging each one of the environmental membranes; and

5       said substrate has a substantially V-shaped cross-sectional configuration comprising an upper planar member disposed atop said plurality of seam plates, and a lower planar member folded along a first side edge portion of said substrate so as to be disposed beneath said plurality of seam plates wherein said projections of said seam plates will engage said lower planar member of said substrate when said plurality of seam plates are secured to the underlying roof decking substructure so as to also engage the environmental membranes.

15   9. The assembly as set forth in Claim 8, further comprising:  
      heat-seal regions defined around peripheral edge portions of each one of said plurality of seam plates for securing each one of said plurality of seam plates to said substrate.

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10. The assembly as set forth in Claim 8, further comprising:

25       a longitudinally-extending heat seal region defined along a second oppositely disposed side edge portion of said substrate so as to affix said upper and lower planar members of said substrate together.

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11. The assembly as set forth in Claim 1, further comprising:

adhesive means for adhesively bonding upper surface portions of each one of said plurality of seam plates  
5 to said substrate.

12. The assembly as set forth in Claim 1, further comprising:  
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foldable prong means mounted upon each one of said plurality of seam plates for piercing said substrate and securing each one of said plurality of seam plates upon said substrate when said foldable prong means are folded into engagement with said substrate so as to effectively entrap  
15 portions of said substrate between said folded prong means and each one of said plurality of seam plates.

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13. A roof decking assembly for facilitating the fixed mounting of roof membrane seam plates to predetermined locations of an underlying roof decking substructure, comprising:

25 a roof decking substructure;

an insulation panel disposed atop said roof decking substructure;

a plurality of environmental membranes adapted to be fixedly secured atop said insulation panel;

30 a substrate, comprising at least one ply, having a longitudinal extent; and

a plurality of seam plates, for fixing said environmental membranes to said underlying roof decking substructure, fixedly mounted to said at least one ply of said substrate at predeterminedly spaced positions, along said longitudinal extent of said substrate, such that when one of said plurality of seam plates is fixedly secured at a first location along said underlying roof decking substructure, remaining ones of said plurality of seam plates will inherently be disposed at remaining ones of said predetermined locations along said underlying roof decking substructure at which said seam plates are to be fixedly secured so as to ensure the proper fixation of said seam plates to said underlying roof decking substructure whereby, in turn, the fixation of said environmental membranes, to said underlying roof decking substructure, will likewise be ensured.

14. The assembly as set forth in Claim 13, wherein:

said underlying roof decking substructure comprises a corrugated roof decking substructure, comprising a plurality of crest portions spaced from each other by means of predetermined distances; and

said plurality of seam plates are fixedly mounted upon said at least one substrate at predeterminedly spaced positions which correspond to said predetermined distances defined between said plurality of spaced crest portions of said underlying corrugated roof decking substructure so as to ensure said plurality of seam plates being fixedly secured to said plurality of spaced crest portions of said underlying corrugated roof decking substructure.

15. The assembly as set forth in Claim 13, wherein:

said underlying roof decking substructure comprises a non-corrugated roof decking substructure; and

5 said plurality of seam plates are fixedly mounted upon said at least one substrate at predeterminedly spaced positions which will ensure the secure fixation of said environmental membranes to said underlying non-corrugated roof decking substructure in such a manner that said environmental membranes will exhibit uplifting wind force resistance so  
10 as to remain fixed to said underlying non-corrugated roof decking substructure despite being exposed to significant uplifting wind forces.

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16. The assembly as set forth in Claim 13, wherein:

each one of said plurality of seam plates has a plurality of projections extending downwardly from undersurface portions of each one of said plurality of seam plates  
20 for engaging each one of said plurality of environmental membranes; and

said substrate has a substantially C-shaped cross-sectional configuration comprising an upper planar member disposed atop said plurality of seam plates, and a pair of  
25 lower planar flap-type members folded inwardly from opposite side edge portions of said upper planar member.

30 17. The assembly as set forth in Claim 16, further comprising:



heat-sealed regions defined around peripheral edge portions of each one of said plurality of seam plates for securing each one of said plurality of seam plates to said substrate.

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18. The assembly as set forth in Claim 16, wherein:

each one of said plurality of seam plates has a  
10 predetermined lateral extent;

said upper planar member of said substrate has a lateral extent which is at least equal to said lateral extent of each one of said plurality of seam plates so as to cover upper surface portions of each one of said plurality  
15 of seam plates; and

said flap-type members have lateral extents which are less than said predetermined lateral extent of each one of said plurality of seam plates such that when said flap-type members are folded beneath each one of said plurality  
20 of seam plates, said flap-type members will only partially cover undersurface portions of each one of said plurality of seam plates so as to enable at least some of said projections of said seam plates to freely engage said plurality of environmental membranes.

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19. The assembly as set forth in Claim 16, wherein:

each one of said plurality of seam plates has a  
30 predetermined lateral extent;

said upper planar member of said substrate has a lateral extent which is at least equal to said lateral extent of each one of said plurality of seam plates so as to cover upper surface portions of each one of said plurality  
5 of seam plates; and

said flap-type members each have lateral extents which are approximately equal to one-half of said lateral extent of said upper planar member of said substrate such that when said flap-type members are folded beneath each one  
10 of said plurality of seam plates, said flap-type members will substantially cover entire undersurface portions of each one of said plurality of seam plates wherein said projections of said seam plates will engage said folded flap-type members of said substrate when said plurality of seam  
15 plates are secured to said underlying roof decking substructure so as to also engage said plurality of environmental membranes.

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20. The assembly as set forth in Claim 13, wherein:

each one of said plurality of seam plates has a plurality of projections extending downwardly from undersurface portions of each one of said plurality of seam plates  
25 for engaging each one of said plurality of environmental membranes; and

said substrate has a substantially V-shaped cross-sectional configuration comprising an upper planar member disposed atop said plurality of seam plates, and a lower  
30 planar member folded along a first side edge portion of said substrate so as to be disposed beneath said plurality of

seam plates wherein said projections of said seam plates will engage said lower planar member of said substrate when said plurality of seam plates are secured to said underlying roof decking substructure so as to also engage said plurality of environmental membranes.

21. The assembly as set forth in Claim 20, further comprising:

heat-seal regions defined around peripheral edge portions of each one of said plurality of seam plates for securing each one of said plurality of seam plates to said substrate.

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22. The assembly as set forth in Claim 20, further comprising:

a longitudinally-extending heat seal region defined along a second oppositely disposed side edge portion of said substrate so as to affix said upper and lower planar members of said substrate together.

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23. The assembly as set forth in Claim 13, further comprising:

adhesive means for adhesively bonding upper surface portions of each one of said plurality of seam plates to said substrate.

24. The assembly as set forth in Claim 13, further comprising:

foldable prong means mounted upon each one of said plurality of seam plates for piercing said substrate and securing each one of said plurality of seam plates upon said substrate when said foldable prong means are folded into engagement with said substrate so as to effectively entrap portions of said substrate between said folded prong means and each one of said plurality of seam plates.

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